DOCUMENT RESUME

ED 294 139 CS 009 108

AUTHOR Stahl, Steven A.; Miller, Patricia D.
TITLE The Language Experience Approach for Beginning Reading: A Quantitative Research Synthesis.
PUB DATE 88
NOTE 45p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Basal Reading; *Beginning Reading; Comparative Analysis; Grade 1; Kindergarten; *Language Experience Approach; Meta Analysis; Primary Education; Program Effectiveness; Program Evaluation; *Reading Achievement; Reading Instruction; Reading Programs; Reading Research

ABSTRACT

To examine the effects of the language experience approach (LEA) on beginning reading achievement, a study analyzed five projects conducted as part of the United States Office of Education first grade studies and 32 additional studies comparing basal reading approaches to LEA. Using two methods of quantitative synthesis (vote-counting and meta-analysis), analyses indicated that, overall, LEA approaches and basal reader approaches were approximately equal in their effects, with the following exceptions: (1) there were indications that LEA approaches may have been more effective in kindergarten than in first grade; (2) LEA approaches appeared to produce stronger effects on measures of word recognition than on measures of reading comprehension; and (3) more recent studies showed a trend toward stronger effects for the basal reading program relative to LEA methods. Findings suggest that Language Experience has an important function early in the process of learning to read, but that as the child's needs shift, LEA becomes less effective. (Four tables of data are included, and 74 references are appended.) (MM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED294139

The Language Experience Approach for Beginning Reading: A Quantitative Research Synthesis

Steven A. Stahl

Patricia D. Miller

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Steven A. Stahl

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Department of Elementary Education and Reading

Western Illinois University

Macomb, IL 61455

(309) 298-1961

Running Head: Language Experience

CS 009108

ABSTRACT

In order to examine the effects of the language experience approach (LEA) on beginning reading achievement, a quantitative synthesis using both vote-counting and meta-analysis procedures was performed. Two data bases were used, the 5 projects conducted as part of the USOE first grade studies and 32 additional studies comparing basal reading approaches to LEA. The results of both analyses suggest that, overall, LEA approaches and basal reader approaches are approximately equal in their effects, with several exceptions. First, there are some indications that LEA approaches may be more effective in Kindergarten than in first grade. Second, LEA approaches appear to produce stronger effects on measures of word recognition than on measures of reading comprehension. Third, more recent studies show a trend toward stronger effects for the basal reading program relative to LEA methods. An analysis of outlier studies suggests that the long term effects of LEA methods may be lower than estimated, since the lowest effect sizes were found in studies which evaluated existing programs, as opposed to newly implemented experimental programs. These results are discussed within a stage model of reading which suggests that LEA might be most effective for developing pre-reading concepts, such as print concepts and expectations about reading, while more direct approaches might be more appropriate to help children decode.

The Language Experience Approach for Beginning Reading: A Quantitative Research Synthesis

For at least the better part of this century, there have been voices advocating that reading instruction begin in a natural manner, using the child's own oral language as a bridge to beginning reading instruction (see Hildreth, 1965). These approaches have been termed "activity approaches," "informal approaches," "language experience approaches," or, most recently, "whole language approaches."

These terms represent an evolution of an idea, so that a "whole language" approach discussed today might be very different from an "activity approach" discussed by Wrightstone (1951), for example. However, they are also manifestations of a core approach to children's learning to read, namely that the child's attention should be focused on the communicative function of written language (Harste, 1985; Goodman & Goodman, 1979). (Since the majority of the research we review uses the term "Language Experience," we will use this term to encompass this area. However, current "whole language" approaches, while they share many features with older language experience approaches are not identical to them.)

Inherent to a language experience approach (LEA) is the use of the child's own language to produce the materials used to teach reading. This may involve the development and use of experience charts, created by small groups or the entire class, or the encouragement of individual writing as a way to bring children into literacy. The intention of this approach is to bring children into literacy in a "natural" way, by bridging the gap between children's oral language competencies and written language. Thus,

written language should be seen as functional from the very beginning (R. Allen, 1976). Because it is functional, it is argued that children learn written language the way they do oral language, through exposure to a "literate environment." (Goodman & Goodman, 1979). In such an environment, children are led to realize that their oral language, as well as the ideas of others, can be written and thus read. R. Allen (1976) expressed this as follows: "What I can think about, I can talk about. What I can talk about, I can write. What I can write, I can read. I can read what I write and what other people can write for me to read."

The language experience approach is therefore based on the premise that speaking, listening, writing, and reading are interrelated and interdependent. Instruction in reading begins where children are, in terms of their ability to think with words, and stimulates language development in all media of expression and reception, with the ultimate goal of reading the writings of others.

Reviews of LEA Studies

A comprehensive review of LEA studies was conducted by Hall (1972, 1977). Hall summarized the results of 42 studies regarding the effects of language experience approaches. Her methodology was to report the significant and non-significant effects from each study as they were found. She concludes that there is evidence "to support that the overall reading achievement of students who receive language experience instruction is satisfactory, and, in some cases, it is superior to the achievement of children instructed by other approaches." (1977, p. 24) While this claim is appropriately modest, it may overstate the effectiveness of LEA. If two methods, in this case LEA and basal reading approaches, are approximately equal in their effects, both methods will produce some significantly higher

scores than the other, by chance alone.

A partial synthesis of LEA research was done as part of a review of Becoming a Nation of Readers (Anderson, Hiebert, Wilkinson, & Scott, 1985) by Grundin (1986). As part of their overall review of our knowledge of reading instruction, Anderson et al. suggested that the effects of language experience approaches have been "indifferent" (p.45), at least compared to conventional basal reading approaches. Grundin took issue with this conclusion. He argued that Anderson et al.'s conclusion was based only on one study, Bond and Dykstra's (1967) review of the Cooperative Research Program in First Grade, that this study was dated, and that the early LEA approaches were very different from modern whole language approaches.

Grundin does not cite any more recent research concerning LEA and basal reader approaches that should have been considered by Anderson et al. Instead, Grundin re-analyzed the Bond and Dykstra data, totalling the average adjusted Stanford Achievement Test scores for each group, "ranking each approach according to how it compares to the overall mean of the study it is in," and comparing the average ranks for LEA/structure approaches, linguistic approaches, basal plus additional phonics, i.t.a. approaches and basal-only approaches. Grundin interprets his re-analysis to show that LEA approaches were in fact the best performing of all five approaches.

We feel that Grundin's analysis was not the best approach to examine the Bond and Dykstra (1967) data. Bond and Dykstra's achievement test results were interval, that is they conveyed information both about the order of the effects and the magnitude of differences between the effects. By ranking, Grundin disregarded the information about magnitude and retained only the information about order, leading to possibly misleading conclusions. For example, it is possible to find sets of numbers whose

average rank is identical but whose means are vastly different, and to find sets in which the means are close to each other but the average ranks are markedly different. The average ranking procedure can both overestimate the importance of small differences and underestimates that of larger differences (the differences between 29 and 30 and between 30 and 70 both count as differences of one rank point). In addition, Grundin did not provide any information about variations between studies. Since the different studies varied from the means for each method, small differences between means may well be due to chance and may not represent a real difference in methods. Under the ranking method used by Grundin, these small differences would be indistinguishable from larger, reliable differences.

Various methods of quantitative synthesis have been developed which might be more appropriate for analyzing the Bond and Dykstra and other comparisons of LEA with other forms of beginning reading instruction. This paper will attempt such a quantitative review of the effectiveness of LEA approaches to beginning reading, using two methods of quantitative synthesis, vote-counting and meta-analysis, to evaluate our current knowledge of the effectiveness of language experience and to suggest future research directions.

The synthesis will be directed toward four questions: (1) What are the overall effects of language experience approaches compared to the basal reading approach predominant at the time of the study, (2) Are these effects different at Kindergarten (or at the child's first exposure to formal schooling) than in First Grade, (3) Does language experience have a differential effect on different aspects of reading (Word Recognition, Decoding, Reading Comprehension, etc.), and (4) Have LEA approaches grown

more effective over time?

Method

Study Selection.

We used a number of data sources to locate relevant studies. A study was deemed relevant if it compared an approach using LEA as the majority or entirety of a beginning reading program to a basal or traditional approach. We conducted computer searches of the ERIC and Dissertation Abstracts databases using the descriptors "Language Experience" and "Whole Language." In addition, we checked references of obtained papers and bibliographies such as Crismore (1984), Hall (1977), and Stauffer (1976), checked conference programs, and wrote to major figures in the field. (Although Hall cites studies dating back to 1933, because of the uncertainty of the descriptions of the early LEA-prototype approaches, we limited our review to studies published after 1960.) We found 33 studies in addition to the USOE First Grade studies. Only 13 of these provided enough information for the meta-analysis, resulting in 45 effect sizes for the non-USOE studies and an additional 71 effect sizes derived from the USOE First Grade studies, a total of 114 separate effect sizes.

A number of studies, mostly in the USOE group, were long-term follow-ups of children whose initial reading instruction used LEA procedures. These were included in both analyses. While it could be argued that children observed in third grade should not be included with those observed in first grade, our review both with and without these studies indicates that inclusion would make little difference in the overall results. Inclusion of these studies might have exaggerated the effects of LEA slightly, because of the inclusion of more of Stauffer's results. Since, as discussed below, his program produced the strongest effects of the various

LEA methods, this may have made LEA approaches look slightly more effective than they would otherwise.

Because of the number of variations of LEA that are possible, it was necessary to include many different methodologies together. Some of the authors have used only language experience charts, others have used language experience in combination with other materials. We have restricted our review to those approaches which have used predominantly an LEA approach (defined as having roughly half of the emphasis on reading materials dictated by children, as best can be determined from the report). Thus, included in our review are pure LEA approaches, LEA plus predictable books (Bridge, Winograd, & Haley, 1983; Ribowsky, 1985), LEA on computers (Educational Testing Service, 1985; Pickering & Pope, 1986), etc. Also, several of the studies used special populations including disadvantaged children (e.g. Brazziel & Terrell, 1962; Harris & Serwer, 1966), mildly retarded children (Woodcock, 1966), etc. Again, we examined the results both with and without these studies. The results were essentially similar either way.

The review was limited to instructional studies which compared the effects of two separate programs. We did not include studies which compared students' reading of self-authored vs. other authored materials (e.g. J. Allen, 1985), or studies which compared the number of words generated in experience stories to those used in basal texts (e.g. Gunderson & Shapiro, 1987) although these types of studies have also been used to support the efficacy of LEA (see Hall, 1977).

Procedures.

Two procedures were used to evaluate studies. First, a vote counting procedure was used (Light & Pillemer, 1985). Each result was classified as

either significantly favoring LEA, significantly favoring the basal reader approach, or nonsignificant. Measures included not only standardized achievement tests but also attitude measures, miscue analysis, concepts about print, etc.

Second, where available, results were translated into effect sizes (Glass, McGaw, & Smith, 1981; Light & Pillemer, 1985), using the following formula:

$$ES = \frac{Mean_{LEA} - Mean_{Basal}}{sd_{Basal}}$$

Where the standard deviation of the basal group was not available, the pooled standard deviation for the entire group was used instead. Calculations were made using effect sizes in order to answer the four questions posed above.

While there are no absolute standards to evaluate the magnitude of effect sizes, Light and Pillemer suggest that an effect size of $\pm.5$ is large enough to be visible, such as the differences in average height between 14- and 18-year old boys, while a $\pm.2$ would be a small effect, corresponding to, for example, the differences in height between 15- and 16-year old boys. An effect size can be also interpreted as a z-score. For example, an ES of 0.2 indicates that, on the average, a student in the fiftieth percentile of the treatment group scored as well as a student in the 58th percentile of the control group. In this analysis, a positive effect size indicates that the LEA group outperformed the basal reader group; a negative effect size suggests the opposite.

Each comparison will be treated as a single data point, but it should be pointed out that each comparison may reflect the performance of between

10 to 200 or more subjects. Because of this, many authors do not perform statistical significance testing on effect sizes. If, for example, one can find 10 effect sizes relating to a certain comparison, summarizing the results from 200 subjects, to use 9 d.f. would be extremely conservative, possibly obscuring an important effect. To use 199 d.f. may, with certain analyses, be so liberal as to make even the smallest effects statistically significant. We will present statistical tests of key questions, but, because using each comparison as a single data point makes such tests inherently very conservative, it should be kept in mind that the magnitude of effects is more important than whether the effects are different from chance. (In general, small effect sizes tend not to be significantly different from zero.)

Because massing of effect sizes can mask individual effective programs, separate descriptions will be made of outlier studies. All studies producing an effect size of $\pm$ 1 standard unit from the mean of all studies will be discussed separately, following results of the overall analysis, in order to better understand what makes a LEA program either relatively effective or ineffective.

Because the majority of the effect sizes were obtained from the USOE Cooperative First Grade Studies, we have decided to present these separately from the non-USOE studies. For all analyses where this is appropriate, effect sizes will be presented for the group of USOE studies, the non-USOE studies, and the total. This will be done to avoid the problems of excessive reliance on one body of literature.

Results

Overall effects

In the vote-counting, overall, LEA approaches appear approximately equal to basal reader approaches in their effectiveness. Of the non-USOE studies, 20 comparisons favor LEA approaches, 13 favor basal reader approaches, and 49 did not find significant differences. For the USOE studies, 16 differences favored the LEA method, 6 favored the basal reading method, and 57 were non-significant. These include observations after first, second, third, and sixth grade. Thus, out of 163 comparisons, 22% favored LEA programs, 12% favored basal reading programs, and 66% were non-significant. The results of the vote-counting analysis are shown in Tables 1 and 2. Table 1 reviews the USOE studies, while Table 2 reviews the non-USOE studies.

Insert Tables 1 and 2 about here

If the two approaches were identical in their effects, one would expect about 5% of the differences to significantly favor one method and another 5% to favor the other, by chance alone (Light & Pillemer, 1985). A Chi-Square test comparing the observed findings with this distribution found more significant differences than would have been expected by chance ($X^2 = 89.31$, $p<.0001$). Although the majority of the comparisons showed no differences between the two approaches, the number of significant differences suggests that this agglutination of findings may not represent one population, or that both LEA and basal reading programs may have different effects for different subsets of the studies.

Insert Tables 3 and 4 about here

The results of the meta-analysis (shown in tables 3 and 4) confirms the general results of the vote-counting. The mean of all 116 effect sizes was 0.06 (sd = .61). Effect sizes ranged from 1.43 to -1.46. A one-sample t-test found that this was not significantly different from zero, indicating that LEA approaches were not reliably different from basal reader approaches in their effects.

The results of both analyses indicate that the overall effects of LEA and basal reading programs are similar, but that the effects are not homogenous. Because of the heterogeneity of the findings, the overall lack of differences between LEA and basal reading programs may obscure strong differences in certain subsets of the data.

Readiness vs. Beginning Reading

When the vote counting data was broken down by whether LEA was used as a readiness program, preparatory for another beginning reading approach, or whether it was the beginning reading approach, an interesting pattern was found. For these Readiness studies, eleven comparisons favor LEA, two favor the basal, and thirteen are non-significant, suggesting that LEA approaches are more effective in Kindergarten. For first grade, the approaches are more equal. Eleven of the non-USOE comparisons favor basal reader approaches, thirty six are non-significant, and nine favor LEA approaches. The effects of LEA on Readiness and First Grade Reading were significantly different (X^2=6.18, $p<.05$). Cramer's Phi, a measure of the strength of the association, was 0.27, indicating a moderately strong relationship between the function of LEA instruction and its effectiveness.

(Although the Bergemann (1969), Brazziel and Terrell (1962), and Hall (1965) studies were conducted with first graders, this was the first exposure of these children to school. The use of language experience served the purpose of a readiness program for these children, and their progress was partially measured using readiness tests. Therefore, we have chosen to include these studies with the studies using Kindergarten children. The overall results would be similar no matter how these are classified.)

For the meta-analysis, we were able to derive effect sizes only from three studies in the Readiness group. Because of the small number of studies involved and the use of different measures (print concept measures as opposed to reading performance measures), no similar comparison was made using the meta-analysis data.

Differential Effects

The second question addressed in this analysis was whether LEA approaches had different effects on different measures of reading achievement. For the USOE studies, the mean effect size for word recognition measures was 0.17, while that for comprehension measures was 0.09. These are both small effects, and essentially similar to each other. For the non-USOE studies, the mean effect size for word recognition was 0.33 and for comprehension measures was -.42. These effects are both moderate, favoring LEA on the word recognition measures and favoring basal readers on comprehension. The difference between them is large, and statistically significant ($t(28) = 4.69$, $p<.005$).

Older vs. Newer Studies

Another analysis examined whether LEA approaches were becoming more effective over time, as implied by Grundin (1985). To answer this we calculated a Pearson correlation between the year of publication of the

study and the obtained effect size. To avoid the biasing effects of having many effect sizes at the same year, we excluded the USOE studies from this analysis and used only the non-USOE effect sizes. The obtained correlation was -.18 (N = 42), which was not statistically significant ($p>.05$).

Because the above analysis suggested that LEA functions differently as a Readiness program than it does as a Beginning Reading program, separate correlations were calculated for each data set. For the Readiness studies, the relationship between year of publication and effect size was moderate and positive, 0.46, but was not significantly different from zero. This may have been due to the small number of effect sizes (N = 10) used in the analysis. For the Beginning Reading studies, the effect was also moderate, -.57 (N = 32), which was statistically significant ($p<.001$). Since this correlation is negative, it suggests that between 1967 and 1986 there was a tendency for the LEA approaches used as Beginning Reading methods to be less effective in relation to basal reading approaches with later years of publication.

Related were differences found between the USOE and non-USOE studies. The mean effect size derived from the USOE studies was small and positive (0.14). The mean effect size for the non-USOE studies, was negative (-.14). The average effect sizes for the USOE and non-USOE groups were significantly different from each other ($t(115) = 4.68$, $p<.001$), although both were small and neither was significantly different from zero. Therefore, the LEA treatment used in the USOE studies was more effective relative to the basals used at the time than that used in the non-USOE studies, confirming the trend for later studies to show lower effects for LEA.

Standardized vs. Naturalistic Measures

Some authors have suggested that children in basal reading programs are exposed to more test-like events in their instruction, biasing these measures toward programs with basic skills orientations (e.g. Harste, 1985; House et al., 1978). It has been suggested, then, that more naturalistic measures should be used to measure more naturalistic programs. Such measures, such as oral reading miscue analysis and attitude measures, were included only in the vote-counting analysis, since it was not possible to derive effect sizes for any of these more naturalistic measures.

The results from more naturalistic measures mirror those from the other measures. Ramig and Hall (1980) and Pollack and Brown (1980) found no significant differences between the oral reading miscues produced by LEA-trained and basal-trained first graders (see also Blachowitz, McCarthy, & Ogle, 1979, Wilkinson and Brown, 1983). Harris et al. (1968) found that LEA trained students read more books than basal students when number of different books was the unit of analysis, but basal students read more pages in free reading.

The results of measures of children's attitudes towards reading are equally ambivalent. Some proponents of LEA approaches suggest that these approaches improve students' attitude toward reading, while basal approaches deaden enthusiasm (e.g. Harste, 1985). The results of the vote-counting found that LEA had significant effects on attitude measures in 3 studies, while no significant difference was found in 8 studies. One difference favored the basal reader group.

Discussion

The results of the meta-analysis and vote-counting procedures appear to indicate that, overall, language experience approaches were

approximately equal to basal reading approaches in their effects. This was found on both standardized and non-standardized measures, and on measures of attitude as well as achievement. However, these results were not consistent across all studies. Language Experience approaches appear to be more effective when used in Kindergarten or instead of a "reading readiness" program, and seem to have had greater effects on measures of word recognition than on measures of comprehension, in the more recent, non-USOE studies.

The four outlier studies which showed strong effects for LEA showed similar trends. These studies found effects greater than +1 standard unit, indicating that the LEA group outperformed the basal control by a full standard deviation. Of these three (Bridge, et al., 1983; Ribowsky, 1985; and Walraven, 1981) were concerned with the initial stages of reading, either in the beginning of first grade (Bridge et al.) or Kindergarten (Ribowsky and Walraven).

The only other outlier showing a strong advantage for LEA was the third grade follow-up of Stauffer's (1968) USOE study. Unlike many of the USOE studies, Stauffer's second and third grade instruction was also especially adapted rather than conventional instruction. This large effect in third grade may be the cumulation of Stauffer's overall curriculum, rather than just the effects of LEA. Stauffer's version of LEA, however, also produced consistently larger effects than the versions used in other USOE projects. One possible reason for this will be discussed later.

Four studies found average effect sizes for LEA methods of -1.00 or less, indicating that an average student in the LEA group scored a full standard deviation below the average student in the basal group. All of these studies, Corrigan (1986), Evans and Carr (1985), Harris et al.

(1968), and Tumner and Nesdale (1985), were evaluations of existing programs, rather than deliberate manipulations in which an experimenter trained teachers to use the LEA approach and then evaluated the results of that instruction. The other two evaluation studies, the Follow Through evaluations of Stallings (1975) and Abt Associates (1977), also found basal reader programs to be superior to language experience approaches. (They both found code emphasis approaches to be more effective than either LEA or basals).

The results of a deliberate manipulation may be subject to an Experimenter effect (Campbell & Stanley, 1966). In other words, the training or experimenter expectations may have biased the results in favor of the manipulated treatment when compared to a status quo, basal, treatment. This may be especially so when a teacher must not only be specially trained to be an effective LEA teacher, but also must invest time, effort, and ingenuity preparing materials for the class. This may be especially true when the experimenter teaches some of the experimental classes but not the basal control classes (e.g. Fishman, 1977; Ribowsky, 1985). Thus, the superiority of basal reader instruction on these evaluation studies suggests that the long term effects of LEA might be lower than this meta-analysis found.

These results fit well into several stage models of reading acquisition. Chall (1983b) suggests that prior to formal reading instruction, children need to develop skills prerequisite to learning to read. These include knowledge of their language, concepts about print, expectations about the nature of reading, etc., skills which appear to be developed through LEA approaches. Following this stage, children need to learn to decode print. This appears to be best accomplished through direct

instruction of sound-symbol correspondances, rather than more indirect approaches such as LEA. (see Anderson et al., 1985).

Downing (1979) similarly suggests three phases in the acquisition of reading skill, a cognitive phase in which the child becomes aware of the tasks needed to become a skilled performer, a mastering phase in which the skill is practiced until mastery is achieved, and an automaticity phase in which the learner practices until the skill can be performed without conscious attention. It could be suggested that LEA may work best in the cognitive phase. By clearly demonstrating the relations between written and spoken language, LEA might serve to clear up initial confusion about the functions of reading, of how written words relate to spoken words, etc. (see also Mason & McCormick, 1986).

Language Experience Approaches, used as children's initial introduction to literacy, in Kindergarten or the beginning of first grade, may work by enhancing their concepts about print conventions, or by showing them the conventions of written language in a manner that is relatively gentle (see Clay, 1985). Language experience may be profitably combined with Shared Book experiences, in a manner suggested by contemporary whole language advocates. Such an approach was found to be successful by Bridge et al. (1983), Ribowsky (1985), and Walraven (1981).

It is thus possible that LEA or whole language approaches may approximate the kind of incidental learning about books that takes place in middle class households (see Snow, 1983; Snow & Ninio, 1986), in which children are initiated to print through dialogue about its features. This learning may not take place in some households, especially where books are not present or that literacy has a lower status (Chall & Snow, 1982). While these print concepts are important, once they are mastered, children may be

ready for more systematic learning about the code of written language (see Chall, 1983b).

In the mastering phase, a more systematic approach to decoding than LEA may be needed. It is possible to compare such programs, such as those suggested by Anderson et al. (1985) and Chall (1983a) as most effective in first grade reading programs, to LEA programs, at least in a limited manner. Bond and Dykstra (1967) included programs labeled "Phonic/Linguistic," which correspond most closely to Anderson et al.'s and Chall's suggestions, in their analysis. Looking only at the results at the end of first grade, the three phonic/linguistic projects (Hayes, Tanyzer, and Wyatt) produced a mean effect size of 0.91 on the Stanford Word Reading subtest and 0.36 on the Stanford Paragraph Meaning subtest. The corresponding effects of the five LEA projects from Table 4 are 0.16 and 0.01. Thus, when compared to similar basal reading programs, Phonic/Linguistic programs used in first grade produced strikingly larger effects than LEA programs, suggesting that, in this mastering phase, the more systematic code-emphasis approaches were the more successful.

Many authors have argued that using LEA precludes (or is an alternative to) paying systematic attention to the development of decoding. This does not have to be the case. Of the successful approaches, Stauffer's approach places the largest emphasis on word recognition in isolation, making extensive use of word banks and explicit teaching to bring word forms to the child's attention during reading of experience charts (see Tierney, Readence, & Dishner, 1985). As noted earlier, Stauffer's program appeared to produce larger effects in first grade than the other LEA programs in the USOE studies. This greater attention to word forms may have contributed to that success. Fishman (1977), similarly, integrated

systematic attention to decoding into a Language Experience Approach. This approach produced significantly higher reading comprehension achievement than either another LEA method or a basal reader control.

At least for some of the approaches studied, the effects found for LEA may have been related to the amount of reading done by the students. Harris and Serwer's (1966) formal observations of LEA and basal programs found that the children in their project's basal reading program spent more time on direct reading activities, such as reading connected text. LEA pupils spent more time in indirect reading activities, such as talking about what they were going to write, talking about what they read, etc. They further found that the amount of time spent on direct reading activities was positively correlated with reading acheivement while time spent on indirect activities tended to be negatively correlated. This second finding has been replicated by a number of researchers (e.g. Berliner, 1981).

It certainly would not be the intent of the proponents of LEA that children spend less time reading. However, the philosophy that reading and speaking were equivalent aspects of a same general process seems to suggest that time spent on language, oral or written, would be equally profitable. If the goal is improved reading skill, this does not appear to be the case. Evans and Carr (1985) found that gains in spoken language skills were negatively correlated to gains in reading skill, that is, that greater gains in oral language were associated with lower reading skills. Their interpretation was that children need "print-specific skills" for success in reading, and that children cannot benefit from their language skills unless they have a requisite amount of these print-specific skills. Therefore, spending more time on oral language development might not show an effect until children are able to identify a certain number of written

words (see also Chall, 1983b).

The conclusions of this should be tempered by the quality of the research reviewed. Comparing fairly complex programs, such as LEA and basal reading programs, over relatively long time periods, is inherently imprecise. For example, only a few of the studies reported here consistently observed classroom instruction to insure fidelity to the treatment (e.g. Evans & Carr, 1985; Harris & Serwer, 1966; Hoffman, 1977). Even with observations, one can assume that there would be considerable variations both within a single treatment over a school year and between treatments that share the same labels. In order to take stock of the effects of these programs, however, one must include research that is not as rigorous are we would like. The results of this analysis should be interpreted as a status report on the effects of LEA as a beginning reading program, not an evaluation of its potential.

It is important to note several other limitations of this review. First, we did not examine the effects of LEA on writing. Individualized writing, possibly using invented spelling, could have positive effects on children's development of writing skills, irrespective of its effect on reading. Second, because we limited our review to programs which used LEA predominantly, these results do not reflect on LEA as a supplement to another reading program. Teachers report that LEA is often used in this way, but we not found enough research examining the efficacy of LEA in this role to draw conclusions. Last, it is possible that many of the better programs were not eligible for this review. Many researchers interested in "whole language" approaches to reading have used ethnographic methodologies which do not involve direct comparisons, and thus cannot be included in a review such as this. These approaches may or may not be superior to the

approaches studied here.

In summary, the question should not be whether LEA is effective, but when it is effective and what it is effective for. From the data reviewed, it appears that Language Experience has an important function early in the process of learning to read, but that as the child's needs shift, LEA becomes less effective. It could also be that the philosophy behind LEA, that the function of reading is to communicate, needs to be learned by children early, but, once learned, children need to be able to decode written language fluently and automatically in order to be able to use reading for that purpose.

References

Abt Associates (1977). Education as experimentation: A planned variation model, Volume IV-B, Effects of Follow Through models, Cambridge, MA: Abt Associates.

Allen, J. (1985). Inferential comprehension: The effects of text source, decoding ability, and mode. Reading Research Quarterly, 20, 603-615.

Allen, R.V. (1976). Language experiences in communication. Boston: Houghton-Mifflin.

Anderson, R.C., Hiebert, E., Scott, J., & Wilkinson, I. G.(1985). Becoming a Nation of Readers. Champaign, IL: Center for the Study of Reading and National Academy of Education.

Asphlund, B.B. & Sunal, C.S. (1976). The effectiveness of the Language Experience Approach as a supplement to a basal reader program. ERIC Document Reproduction Service, ED 182 705.

Bergemann, V.E. (1969). A modified language experience approach versus a basal approach to reading with first grade children. Unpublished Ed.D. dissertation, University of Maryland, College Park.

Berliner, D.C. (1981). Academic learning time. In J.T. Guthrie (ed.) Comprehension and teaching: Research reviews (pp. 203-226). Newark, DE: International Reading Association.

Blachowitz, C.L.F., McCarthy, L.B., & Ogle, D.M. (1979). Testing phonics: A look at children's response biases. Illinois School Research and Development, 16, 1-6.

Brazziel, W.F. & Terrell, M. (1962). For first graders: A good start in school. The Elementary School Journal, 62, 352-355.

Bond, G.L. & Dykstra, R. (1967). The cooperative research program in first grade reading instruction. Reading Research Quarterly, 2(4), 5-142.

Bridge, C.A., Winograd, P.N., & Haley, D. (1983). Using predictable materials vs. preprimers to teach beginning sight words. The Reading Teacher, 36, 884-891.

Campbell, D.T. & Stanley, J.C. (1966). Experimental and quasi-experimental designs for research. Chicago: Rand-McNally.

Carrigan, A. (1986, December). Reading achievement of grade one students involved in language experience programs vs. basal reader programs. Paper presented at annual meeting, National Reading Conference, Austin, TX.

Chall, J.S. (1983a). Learning to read: The great debate (second edition), New York: McGraw-Hill.

Chall, J.S. (1983b). Stages of reading development. New York: McGraw-Hill.

Chall, J.S. & Snow, C.E. (1982). Families and literacy, A report to the National Institute of Education, Cambridge, MA: Harvard Graduate School of Education.

Clay, M. (1985). The early detection of reading disabilities, Third ed. Portsmouth, NH: Heinemann.

Cleland, D.L. & Vilscek, E. (1964). Comparison of the basal and the coordinated language experience approaches in first grade reading instruction. ERIC Document Reporduction Service ED 012 687.

Crismore, A. (1985). Landscapes: A state-of-the-art assessment of reading comprehension research 1974-1984. Bloomington, IN: Language Education Dept., Indiana University.

Dittus, C.H. (1983). The influence of instructional approach, instruction/test overlap, and student behavior on reading achievement. Unpublished Ed.D. dissertation, Rutgers, The State University of New Jersey.

Downing, J. (1979). Reading and reasoning. New York, NY: Springer-Verlag.

Duquette, R.J. (1972). Barnette-Duquette study. Childhood Education, 38, 437-439.

Dykstra, R. (1968). Summary of the second-grade phase of the cooperative research program. Reading Research Quarterly, 4, 49-70.

Educational Testing Service (1984). The ETS evaluation of writing to read, Executive Summary. Princeton, NJ: Educational Testing Service.

Evans, M.A. & Carr, T.H. (1985). Cognitive abilities, conditions of learning, and the early development of reading skill. Reading Research Quarterly, 20, 327-349.

Fishman, T.G. (1977). A comparison of two different programs for implementing the Language Experience approach to beginning reading with a basic reader program and phonic supplement. Unpublished Ed.D. dissertation, Boston University.

Freeman, R.H. & Freeman, G.G. (1987). Reading acquisition: A comparison of four approaches to reading instruction. Reading Psychology, 8, 257-272.

Gallagher, J.A.M. (1975). Vocabulary retention of lower-class students in language experience and in basal text approaches to the teaching of reading, unpublished Ph.D. dissertation, University of South Carolina.

Glass, G. V, McGaw, B., & Smith, M.L. (1982). Meta-analysis in social research, Beverly Hills, CA: Sage.

Goodman, Y. & Goodman, K.S. (1979). Learning to read is natural. In L.B. Resnick & P.A. Weaver (eds.) Theory and practice of early reading, Vol 1 (pp. 137-154), Hillsdale, NJ: Erlbaum.

Grundin, H. (1985). A commission of selective readers: A critique of Becoming a Nation of Readers. The Reading Teacher, 39, 262-266.

Guillemette, M. (1979). A study of the effectiveness of sight reading versus phonetic instruction for children with auditory learning disability, ERIC Document Reproduction Service, ED 184 074.

Hahn, H.T. (1966). Three approaches to beginning reading instruction -- i.t.a., language arts, and basic readers. The Reading Teacher, 19, 590-594.

Hahn, H.T. (1967). Three approaches to beginning reading instruction -- i.t.a., language arts, and basic readers -- Extended into second grade. The Reading Teacher, 20, 711-715.

Hall, M.A. (1965). The development and evaluation of a language experience approach to reading with first-grade culturally disadvantaged children. Unpublished Ph.D. dissertation, University of Maryland.

Hall, M.A. (1972). The language experience approach for the culturally disadvantaged. Newark, DE: International Reading Association.

Hall, M.A. (1977). The language experience approach for teaching reading: A research perspective. Newark, DE: International Reading Association.

Harris, A.J. & Serwer, B.L. (1966). The CRAFT project: instructional time in reading research. Reading Research Quarterly, 2(1), 27-56.

Harris, A.J., Serwer, B.L., & Gold, L. (1967). Comparing reading approaches in first grade teaching with disadvantaged children — extended into second grade. The Reading Teacher, 20, 698-703.

Harris, A.J., Serwer, B.L., Gold, L., & Morrison, C. (1967). A third progress report on the CRAFT project: Teaching reading to disadvantaged primary grade urban Negro children. ERIC Document Reproduction Service, ED 015 841.

Harste, J. (1985). Becoming a nation of readers: Beyond risk. In J. Harste (ed.) Toward practical theory: A state of practice assessment of

reading comprehension instruction. Bloomington, IN: Language Education Department, Indiana University.

Hildreth, G.H. (1965). Experience related reading for school beginners. Elementary English, 42, 280-297.

Hoffman, J.R. (1977). An assessment of the language experience approach to beginning reading and additional teacher characteristics in eight summer migrant schools. Unpublished Ph.D. dissertation, University of Colorado at Boulder.

House, E.R., Glass, G.V, McLean, L.D., & Walker, D.F. (1978). No simple answer: Critique of the Follow Through evaluation. Harvard Educational Review, 48, 128-160.

Kendrick, W.M. & Bennett, C.L. (1966). A comparative study of two first grade language arts programs. Reading Research Quarterly, 2(1), 83-118.

Kendrick, W.M. & Bennett, C.L. (1967). A comparative study of two first grade language arts programs -- extended into second grade. The Reading Teacher, 20, 747-755.

Lamb, P. (1971). The Language Experience appraoch to teaching beginning reading to culturally disadvantaged pupils. ERIC Document Reproduction Service ED 059 314.

Light, R. J.& Pillemer, D. B. (1984). Summing up: The science of reviewing research. Cambridge, MA: Harvard University Press.

McCormick, C.E. & Mason, J.M. (1986). Intervention procedures for increasing children's interest in and knowledge about reading. In E. Sulzby & W. Teale (Eds.) Emergent Literacy (pp. 90-114). Norwood, NJ: Ablex.

O'Donnell, C.M. & Raymond, D. (1972). Developing reading readiness in the

Kindergarten. Elementary English, 49, 768-771.

Pickering, T. & Pope, S. (1986, October). A study of computer assisted instruction vs. a traditional basal reader approach in Kindergarten. Paper presented at annual meeting, Mid-Western Educational Research Association, Chicago, IL.

Pollack, J.F. & Brown, G.H. (1980, August). Observing the effects of reading instruction. Paper presented at the annual meeting of the World Congress on Reading, Manilla, The Phillipines. (ERIC Document Reproduction Service ED 195 500).

Ramig, C.J. & Hall, M.A. (1980). Reading strategies of first grade children taught by a language experience and a basal approach. Reading World, 19, 280-289.

Kibowsky, H. (1985). The effects of a code emphasis and a whole language approach upon the emergent literacy of Kindergarten children. ERIC Document Reproduction Service, ED 269 720.

Sinatra, R. (1984, October). How a holistic language arts curriculum influenced the reading and writing proficiency of Kindergarten and primary grade children. Paper presented at annual meeting of the Eastern Regional Conference of the International Reading Association. (ERIC Document Reproduction Service ED 264 583).

Snow, C.E. (1983). Language and literacy: Relationships during the preschool years. Harvard Educational Review, 53, 165-189.

Snow, C.E. & Ninio, A. (1986). The contracts of literacy: What children learn from learning to read books. In W.H. Teale & E.Sulzby (eds.) Emergent literacy: Writing and reading (pp. 116-138). Norwood, NJ: Ablex Publishing.

Stallings, J. (1975). Implementation and child effects of teaching

practices in Follow Through classrooms. Monographs of the Society for Research in Child Development, 40(7-8) Serial No. 163.

Stauffer, M.A. (1976). Comparative effects of a language arts approach and basal reader approach to first grade reading achievement. In R.G. Stauffer (ed.) Action research in L.E.A. Instructional Procedures (pp. 205-226). Newark, DE: University of Delaware.

Stauffer, R.G. (1966). The effectiveness of language arts and basic reader approaches to first grade reading instruction. The Reading eacher, 20, 18-24.

Stauffer, R.G. (1976). Action research in L.E.A. Instructional Procedures. Newark, DE: University of Delaware.

Stauffer, R.G. & Hammond, W.D. (1967). The effectiveness of language arts and basic reader approaches to first grade reading instruction — extended into second grade. The Reading Teacher, 20, 740-746.

Stauffer, R.G. & Hammond, W.D. (1969). The effectiveness of language arts and basic reader approaches to first grade reading instruction — extended into third grade. Reading Research Quarterly, 4, 468-499.

Stauffer, R.G., Hammond, W.D., Oehlkers, W.J., & Houseman, A. (1976). The effectiveness of language arts and basic reader approaches to first grade reading instruction -- extended into sixth grade. In R.G. Stauffer (ed.) Action research in L.E.A. Instructional Procedures, Newark, DE: University of Delaware.

Stewart, J.P. (1986). A study of Kindergarten children's awareness of how they are learning to read: Home and school prespectives. Unpublished Ph.D. dissertation, University of Illinois at Urbana Champaign.

Stubbs, C.A. (1983). An investigation of the effect of structure of intellect training on academic achievement with low achieving primary

students, unpublished Ph.D. dissertation, University of Tennesee.

Tierney, R.J., Readence, J., & Dishner, E. (1985). Reading strategies and practices: A compendium, 2nd ed. Boston, MA: Allyn & Bacon.

Tumner, W.E. & Nesdale, A.R. (1985). Phonemic segmentation skill and beginning reading. Journal of Educational Psychology, 77, 417-427.

Vilscek, E., Morgan, L., & Cleland, D. (1966). Coordinating and integrating language arts instruction in first grade. The Reading Teacher, 20, 31-37.

Vilscek, E. & Cleland, D.L. (1968). Two approaches to reading instruction: Final report. ERIC Document Reproduction Service ED 022 647.

Walraven, S.T. (1981). The effect of linguistic awareness instruction on linguistic awareness concept development and reading attitudes of Kindergarten children. Unpublished Ph.D. dissertation, University of Georgia.

Wilkinson, I.A.G. & Brown, C.A. (1983). Oral reading strategies of year one children as a function of level of ability and methods of instruction. Reading Psychology, 4, 1-9.

Woodcock, R.W. (1966). The Peabody-Chicago-Detroit Reading Project — A report of the second year results. (ERIC Document Reproduction Service ED 017 413).

Wrightstone, J.W. (1951). Research related to experience records and basal readers. The Reading Teacher, 5, 5-6.

Table 1

Vote-Counting, Non-USOE Studies

Study		Grade	Word Rec.	Decoding	Oral Reading	Comp.	Vocabulary	Readiness	Letter Names	Print Concepts
Readiness										
Brazziel & Terrell	1962	*							LEA	
Bergemann	1969	*			n.s.	n.s.		n.s.		
EIS	1985	K				LEA				
Guillemette	1979	K	n.s.			n.s.				
			n.s.							
Hall	1965	*	LEA			n.s.		n.s.		
			n.s.							
			n.s.							
O'Donnell & Raymond	1972	K	LEA					LEA	n.s.	
Pickering & Pope	1986	K						LEA		
								n.s.		
Ribowsky	1985	K		LEA					LEA	LEA
Stewart	1986	K								LEA

Walraven	1981	K					n.s.		BR
									BR
									LEA
									n.s.
Beginning Reading									
Abt Associates	1977								
Bank Street		3rd				n.s.		BR	
TEEM		3rd				BR		BR	
Asphlund & Sunal	1976	2nd	n.s.						
Blachowitz et al.	1979	1st		n.s.					
Bridge et al.	1983	1st	LEA						
Corrigan	1986	1st				BR			
Dittus	1983	1st		n.s.		n.s.			
Duquette	1972	1st	n.s.	n.s.	n.s.		LEA	n.s.	
		2nd		LEA	n.s.			n.s.	
ETS	1985	1st				n.s.			
Evans & Carr	1985	1st				BR			
						BR			
						n.s.			
						n.s.			

Fishman	1977						
Experimental Program		1st				LEA	
Allen's Program		1st				n.s.	
Freeman & Freeman	1987	1st	n.s.		n.s.		
Gallagher	1975	1st	n.s.				
			n.s.				
Hoffman	1977	1st				n.s.	
Lamb	1971	1st				n.s.	n.s.
						n.s.	
Pollock & Brown	1980	3rd			n.s.		
Powell et al.	1987	1st				n.s.	
Ramig & Hall	1980	1st			n.s.		
Sinatra	1984	1st				LEA	
						n.s.	
Stallings	1975						
Bank Street		1st				BR	
TEEM		1st				BR	
M. Stauffer	1976	1st	LEA	LEA	LEA	LEA	
Stubbs	1983	1st				n.s.	
		2nd				n.s.	
Tumner & Nesdale	1985	1st		BR		BR	
				BR			

Woodcock	1967	EMR	n.s.	n.s.	n.s.
			n.s.	n.s.	
				n.s.	

*Subjects were first graders, but LEA was compared to a basal reading readiness program, rather than an initial reading program. See text.

Table 2

Vote-Counting from USOE Studies

		Stanford Ach. Tests				Gilmore Oral Reading			Word Lists			Other
Study	Grade	WR	WordStudy	Vocab.	P.Meaning	Accuracy	Rate	Fry	Gates	Karlsen	NYS WR	NYS Comp
Observed After First Grade												
Cleland[a]	1st	LFA	LFA	LFA	LFA	n.s.	n.s.	LFA	LFA			
Hahn	1st	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.		
Kendrick	1st	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.		
Stauffer	1st	LFA	n.s.	n.s.	n.s.	LFA	n.s.	LFA	LFA	LFA		
Harris	1st	BR	BR	n.s.	BR	n.s.			n.s.			
Observed After Second Grade												
Pooled[b]	2nd	n.s.	n.s.	n.s.	n.s.	n.s.[c]	n.s.[c]	LFA[c]				
Pooled	2nd	n.s.	n.s.	n.s.	n.s.							
Pooled	2nd	n.s.	n.s.	n.s.	n.s.							
Harris et al. (1967)	2nd	n.s.			n.s.	BR	BR	BR	n.s.			
Observed After Third Grade												
Harris et al. (1967)	3rd			n.s.	n.s.	n.s.	n.s.					
Stauffer	3rd	n.s.	n.s.	n.s.	n.s.	LFA	LFA	LFA	LFA		n.s.	n.s.

Observed After Sixth Grade

Stauffer (1976)	6th	n.s.	n.s.	n.s.	LEA

Notes:

[a]The data in this table and in table 4 are derived from the following reports: Bond & Dykstra (1967), Cleland & Vilscek (1964), Dykstra (1968), Hahn (1966, 1967), Harris & Serwer (1966), Harris, Serwer, & Gold (1967), Harris, Serwer, Gold, & Morrison (1967), Kendrick & Bennett (1966, 1967), R. Stauffer (1966, 1976), Stauffer & Hammond (1967, 1969), Stauffer, Hammond, Oehlkers, & Houseman (1976), Vilscek & Cleland (1968), and Vilscek, Morgan, & Cleland (1966). We have used the convention adopted by Bond and Dykstra to refer to each project by a last name of one of its directors.

[b]Dykstra (1968) did not report individual effect sizes for the Cleland, Kendrick, and Stauffer projects continued into second grade. Since we could not obtain reports of all three projects, we reported the pooled means reported by Dykstra. Each pooled mean was counted three times in the analysis, since it represented three separate studies.

[c]from Stauffer (1969).

Table 3

Effect Sizes Derived from non-USOE Studies

Study	Year	Grade	Word Rec.	Decoding	Oral Reading	Comp.	Vocab.	Linguistic Awareness	Letter Recognition
Readiness									
Guillemette	1979	K	0.03			0.06			
			0.33						
Ribowsky	1985	K		.55				1.91	.51
Walraven	1981	K						-0.27	
								-0.78	
								0.94	
								1.43	
Beginning Reading									
Abt Associates	1977								
Bank Street						-0.06	-0.28		
TEEM						-0.34	-0.32		
Asphlund & Sunal	1976	2nd	0.78						
Bridge et al.	1983	1st	1.09						
Corrigan	1986	1st				-1.46			

Evans & Carr	1985	1st			-1.09	
					-0.85	
					-1.26	
					-0.29	
Harris et al.	1967	1st	0.13	-0.01	0.15	-0.11
		2nd	0.48		0.19	
			0.08		-1.12	
Gallagher	1975	1st	0.02			
			0.03			
Lamb	1971	1st			-0.49	
					-0.18	
Stallings	1975					
Bank Street		1st			-0.45	
TEEM		1st			-0.86	
Tumner & Nesdale	1985	1st		-1.17	-1.11	
				-0.91		
Woodcock	1967	EMR	0.28		0.05	0.20
			0.38		0.33	
					0.33	

Table 4

Effect Sizes Derived from USOE Studies

		Stanford Ach. Tests				Gilmore Oral Reading		Word Lists			Other	
Study	Grade	WR	WordStudy	Vocab.	P.Meaning	Accuracy	Rate	Fry	Gates	Karlsen	NYS WR	NYS Comp
Observed After First Grade												
Cleland[a]	1st	0.50	0.36	0.45	0.41	0.07	0.13	0.24	0.36			
Hahn	1st	0.25	0.13	0.16	0.13	-0.16	-0.08	0.12	-0.05	-0.03		
Kendrick	1st	0.03	-0.10	-0.10	-0.26	0.39	-0.05	0.04	0.10	0.06		
Stauffer	1st	0.33	0.03	0.14	0.21	0.64	-0.07		1.12	2.31		
Harris	1st	-0.33	-0.34	-0.16	-0.43							
Observed After Second Grade												
Pooled[b]	2nd	0.20	0.14	0.09	0.16	0.26[c]	0.03[c]					
Pooled	2nd	0.20	0.14	0.09	0.16							
Pooled	2nd	0.20	0.14	0.09	0.16							
Harris et al. (1967)	2nd	0.18			0.45	-0.82	-2.50	-0.64	-0.29			

Observed After Third Grade											
Harris et al. (1967)	3rd		-0.09	-0.10		0.18	-0.05			-0.10	0.06
Stauffer	3rd	0.07	0.18	0.06		1.39	1.30	1.04	0.71		

[a,b,c]See notes under Table 2.